REMARKS

This Amendment is in response to the Office Action dated September 27, 2005. Claims

1-14 remain pending in the present application.

Present Invention

A dual port USB interface is disclosed. The dual port interface comprises a USB host port

and a USB peripheral port. The host port and the peripheral port are defined using predetermined

signals. In a preferred embodiment the dual port USB interface is utilized in a network where at

least one dual port USB (DPUSB) connector is connected to either standard USB connectors or

other DPUSB connectors. By use of the DPUSB interface, a single device in a network can act as

both a host or a peripheral to other devices as well create network peer-to-peer relationships. Use of

DPUSB connectors also provides the opportunity of new types of devices such as memory cards

and cables that will greatly increase the ease of use of many intelligent electronic devices such as

cameras and PDA's.

Claim Rejections-35 USC 102

The Examiner states,

3. Claims 1-5, 7-10 and 11-13 are rejected under 35 U.S.C. 102(e) as being anticipted by Bouchier et al. (U.S. Patent no. 6,839,771 hereinafter "Bouchier").

4.   Referring to apparatus claims 1 and 12, Bouchier teaches a device comprising:
a processor (see lines 47 of column 4 to line 2 of column 5); and
a single I/O interface coupled to the processor, comprising a host port; and a peripheral port wherein the host port and the peripheral port are defined using predetermined signals and wherein the peripheral port and the host port are both active at the same time (see lines 47 of column 4 to line 2 of column 5, not the USB device communicate in a peer-to-peer relationship).

5.   Referring to claim 7, Bouchier teaches a USB network comprising:
a first device; the first device including a single I/O interface, the interface including a host port and a peripheral port, wherein the host port and the peripheral port are defined using predetermined signals, wherein the peripheral port and the host port are both active at the same time (see figure 2 and lines 17-32 of column 5).

6.   Referring to claims 2, 8 and 9, Bouchier teaches the host a peripheral ports are USB ports and the predetermined signals are within the USB standard (see lines 47 of column 4 to

line 2 of column 5).

7. Referring to claim 3, Bouchier teaches the two connected devices utilizing the single I/O interface can have a peer-to-peer connection via the host port and the peripheral port (see lines 17-32 of column 5).

8. Referring to claim 4, Bouchier teaches two connected devices using a single I/O interface can have a one-to-many relationship via either the host port and/or the peripheral port (see figure 2 and lines 17-32 of column 5).

9. Referring to claims 5 and 13, Bouchier teaches the device needs only one physical I/O port via the connector that includes a host port and a peripheral port which are defined using the predetermined signals (see items labeled USB controller in figure 2).

10. Referring to claim 10, Bouchier teaches the first and second device can any of a camera, a computer, a personal digital assistant, laptop device, handheld device, printer, and cellular phone (see lines 17-32 of column 5).

Claim Rejections- 35 USC 103

The Examiner states,

12. Claims 6, 11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bouchier in view of Hanson et al. (U.S. Patent No. 6,460,094 hereinafter "Hansen").

13. Referring to claims 6, 11 and 14, Bouchier fails to teach the predetermined signals comprise differential data lines and peripheral differential data lines.
Hansen teaches, in an analogous system, the above limitations (see lines 52-65 of column 4).
It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the apparatus and system of Bouchier with the above teachings of Hansen. One of ordinary skill in the art would have been motivated to make such modification in order to use the USB devices in legacy USB systems.

Applicant respectfully disagrees with the rejections. Independent claims 1, 7 and 12 have been rejected by the Examiner as being anticipated by Bouchier (6,839,771). However, Bouchier does not disclose or suggest the connection of two active ports, one a host port and one a peripheral device, on a single I/O interface as claimed in the above-cited independent claims.

Before further discussion of the Bouchier patent, a few words about syntax are in order as there can be some confusion with respect to the terms "device" and "devices". In normal parlance, a network device is any physical entity capable of communicating on the network with a suitable network connection. A USB network is a star network, that is, a network with one central device (the "host") to which all other devices (the "peripherals") are directly connected to

only the host but which do not connect directly to each other. Specific to USB networks, it is acceptable to call the above described peripheral devices are "devices". Bouchier described the host devices as hosts and peripheral devices as "devices" and their ports as "device ports" which can cause some readers confusion. In order to avoid the confusion with the terms "device" and "devices", in the discussion below, a host device will be a "host" with host ports, and a peripheral device will be a "peripheral" with a peripheral port.

The physical network description of the Bouchier patent corresponds to a standard USB port; namely, there is one host with N number of host ports connected to N number of peripherals each with a peripheral port. Bouchier's method of achieving a peer-to-peer network for computers connected on a standard USB star topology does not require a change in the standard USB port connections and solely relies on the use of a software router on the host and modifications to the port drivers on the host and peripherals.

In contrast, the network description of the applicant's patent application is of a network in which at least one member of the network has both a host port and a peripheral port active at the same time. This enabling of both a host and peripheral port on the same computer at the same time is the essence of the claimed invention and results in the possibility of a number of network topologies that include the peer-to-peer network described by Bouchier.

The single I/O interface in the claimed invention is a dual port with both a host and a peripheral USB connection, allows a number of different network topologies which are described briefly in the current application. One of these is certainly the standard USB star network (i.e., Bouchier's peer-to-peer network). A second is the standard USB star network. A third is a network of multiple star networks connected together (that is, multiple USB host devices connected to their own peripheral devices and also hooked together using DPUSB ports).

The present invention would utilize standard network software mechanisms to affect a

working network for any of these kinds of networks. These may include the use of message handlers and modification of device drivers similar to those proposed by the Bouchier patent. However, it is the single I/O interface which includes a host port and peripheral port both of which are active that is an enabling mechanism that allows these different network topologies to be used with suitable software when a single I/O interface is used on the network members. Bouchier does not teach or suggest the use of both a host port and a peripheral port to a single I/O interface which are both active at the same time.

Applicant respectfully submits therefore that claims 1, 7 and 12 are neither taught nor suggested by the cited reference. In addition, Claims 2-16, 8-11, 13 and 14 are also allowable since they depend from an allowable base claim.

In view of the foregoing, it is submitted that the claims 1-14 are allowable over the cited references and are in condition for allowance. Applicant respectfully requests reconsideration of the claims, as now presented.

Applicants' attorney believes this application in condition for allowance. Should any unresolved issues remain, Examiner is invited to call Applicants' attorney at the telephone number indicated below.

Respectfully submitted,

SAWYER LAW GROUP LLP

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Joseph A. Sawyer, Jr.
Attorney for Applicant(s)
Reg. No. 30,801
(650) 493-4540